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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,146	07/13/2005	Guy Baret	124521	9784
25944 7590 04/15/2008 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
TAL XIUNU				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
04/15/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/542,146

**Applicant(s)**

BARET ET AL.

**Examiner**

Xiuyu Tai

**Art Unit**

1795

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 7/13/2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 14-16, 20, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wambach (U.S. 5,961,740) in view of Modrey (U.S. 3,688,248) and in evidence of Wambach (U.S. 6,075,201).
5. Regarding claim 14, Wambach discloses a plate -shaped solar module. The module comprises a plurality of photovoltaic cells arranged between substrates (reference 20 & 24 in Figure 2; col. 3, line 48-49), an external connector pin of the module (reference 2 & 4 in Figure 1; col. 3, line 25-28), and a block of insulating material fixed to one end of the module as to connect to an external connector (reference 6 in Figure 2; col. 3, line 30-32). A connecting conductor is a well know element for connecting solar cell module to an external connector. This is supported by the teaching of Wambach in another patent (U.S. 6,075,201, reference 26 in Figure 2; col.4, line 18-20).
6. Wambach fails to teach the contact between connectors achieved by means of deformation. It should be noted that the contact between connectors achieved by means of deformation is a conventional way for connecting electric connectors. This is evident by the teaching of Modrey. Modrey discloses a roller metal pin (reference 1 in Figure 1; col. 4, line 41-43) using as an electric connector. The reference further teaches that the electric contact obtained with a rolled pin exerts constant and substantially uniform elastic pressure, resulting in excellent contact quality (col. 2, line 10-15). Therefore, it would be obvious for one having ordinary skill in the art to utilize an electric connector as suggested by Modrey in order to achieve better contact between the connector and the connecting conductor in the module of Wambach.

7. Regarding claims 15 and 16, Modrey teaches a springy rolled metal pin as an electric connector that has excellent contact quality (col. 2, line 10-15). Therefore, it would be obvious for one having ordinary skill in the art to utilize an electric connector for the free ends of connector and/or the connecting conductor as suggested by Modrey in order to achieve better contact in the module of Wambach.
8. Regarding claim 20, a sealing mass 18 is provide in the solar module of Wambach (Figure 2; col. 3, line 50-51), reads on "a seal arranged between the two substrates as to define a tight internal volume" as claimed.
9. Regarding claim 24, Wambach teaches that the free end of connector 2 enters the insulating bushing 6 through a centered jack 8 via electrical line 12 and a I-shaped connection is formed between the lug 2 and electrical line 12 (Figure 1; col. 3, line 32-38), reads on the instant claim.
10. Regarding claim 26, Modrey teaches a flexible configuration for excellent electric contact (col. 4, line 50-59) and the connection is accomplished through a mounting hole 20 (col. 5, line 55-59). Therefore, it would be obvious for one having ordinary skill in the art to facilitate easy electric connections.
11. Claims 17, 18, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wambach (U.S. 5,961,740) and Modrey (U.S. 3,688,248) as applied to claims 14 and 20 above, and further in view of Shima et al (U.S. 4,880,401).
12. Regarding claims 17 and 18, Wambach/Modrey fail to teach what type of material the connector or the connecting conductor is made of. However, Shima et al disclose an electric female connector piece that is made of stainless steel (col. 3, line

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32-33). Therefore, it would be obvious for one having ordinary skill in the art to utilize a stainless steel connector or connecting conductor as taught by Shima in the module of Wambach/Modrey in order to achieve better electricity conduction and to prevent rust forming on the surface of the connector.

13. Regarding claim 22, a wire connector is well known in the art. As is evident, Wambach indicates a connection line 4 (Figure 2; col. 3, line 27) and Modrey teaches a wire connector 9 (Figure 1; col. 5, line 6-7). Wambach/Modrey fails to teach a polymer material as being the insulating material. However, Shima et al disclose an electric female connector piece comprising a connector casing 11 made of an electrically insulating synthetic resin material (col. 3, line 15-17), Resin is known as a polymer material. Therefore, it would be obvious for one having ordinary skill in the art to utilize resin as an insulating material in the system of Wambach/Modrey in order to achieve better insulation and tighter sealing for the system.

14. Regarding claim 23, Wambach/Modrey fail to teach a connector comprising a male and female parts of flat connector. However, Shima et al disclose an electric female connector piece comprising a pin-shaped electric connector piece M of a male connector (Figure 2; col. 3, line 18-19) and an elongated contact piece 15 of female connector (Figure 2; col. 3, line 29). The male connector M is inserted into the female connector 15 through an opening 11a on the insulating casing 11 (col. 3, line 15-24). Therefore, it would be obvious for one having ordinary skill in the art to utilize the connector as taught by Shima in the module of Wambach/Modrey in order to achieve an easy and quick connection.

15. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wambach (U.S. 5,961,740) and Modrey (U.S. 3,688,248) as applied to claim 14 above, and further in view of Lee et al (U.S. 6,111,772).

16. Regarding claim 19, Wambach/Modrey fail to teach a metal blade as the connector. However, Lee et al disclose a safety enhanced electric connector. The connector comprises metal blades 1522 and 1532 (Figure 7; col. 4, line 27-28). The reference further teaches to control current path by inserting or removing metal blades (col. 2, line 59-67). Therefore, it would be obvious for one having ordinary skill in the art to include a metal blade as suggested by Lee in the connector of Wambach/Modrey in order to easily control the interconnection between the connector and the connecting conductor. With respect to the required thickness and width, one having ordinary skill in the art would have found obvious to optimize the dimension of the metal blade for suitable size and shape in order to fit in the solar cell module.

17. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wambach (U.S. 5,961,740) and Modrey (U.S. 3,688,248) as applied to claim 20 above, and further in view of Battah (U.S. 6,494,995).

18. Regarding claim 21, Wambach/Modrey fail to teach a negative pressure created inside the tight internal volume. However, Battah discloses a solar cell floating over a body of saline water. The device comprises solar cells 10 connected with a vacuum line 14 (Figure 1; col. 2, line 38-42). A partial vacuum is created in the solar cell for drawing water vapor from the cell (Abstract). Therefore, it would be obvious for one having ordinary skill in the art to operate the system of Wambach/Modrey under a negative

pressure as suggested by Battah in order to prevent the deterioration of solar cell due to moisture.

19. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wambach (U.S. 5,961,740) and Modrey (U.S. 3,688,248) as applied to claim 14 above, and further in view of Brandt et al (U.S. 3,721,948)

20. Regarding claim 25, Wambach/Modrey fails to teach a block insulating material comprising two glass substrates surrounding several conductors separated by glass blades. However, Brandt et al disclose a terminal assembly. The assembly comprises a plurality of conductor pins or leads 4, 5, and 6 (Figure 1; col. 2, line 33-34). Each of terminal 4, 5, and 6 is spaced apart by electrically insulating sleeves 16 (Figure 2 & 3; col. 3, line 26-29) and terminals (4, 5, and 6) and sleeves 16 are enclosed in a tubular member 18 (Figure 2 & 3; col. 3, line 40-43) that is made of resin (col. 4, line 1-3). As indicated in the reference, the terminals are secured to the body by means of glass beads 14 (col. 2, line 47-50). As is evident, glass is well known in the art as an insulating material (col. 2, line 47-50). Although the terminal assembly of Brandt is enclosed in a tubular member 18 and resin is used as an insulating material for sleeves 16 and tubular member 18, one having ordinary skill in the art would have found obvious to change the tubular-shaped enclosure into a box-shaped block and use a glass substrate instead of resin as insulating material in order to accommodate the intended use of the system of Wambach/Modrey.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuyu Tai whose telephone number is 571-270-1855. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/XT/

4/10/2008

/Alexa D. Neckel/

Supervisory Patent Examiner, Art Unit 1795